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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/658,618	09/08/2000	Hiroki Ogata	SCEI 3.0-030	3345

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EXAMINER
NELSON, ALECIA DIANE

ART UNIT	PAPER NUMBER
2675	15

DATE MAILED: 09/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/658,618	OGATA ET AL.	
	Examiner	Art Unit	
	Alecia D. Nelson	2675	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 August 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15 and 18-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-15 and 18-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *12* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 18 is rejected under 35 U.S.C. 102(e) as being anticipated by Copper et al. (U.S. Patent No. 5,485,171).

With reference to **claim 18**, Cooper et al. teaches a method for adjusting a signal output of a control apparatus having a pressure sensitive device (see abstract) comprising: detecting an analog signal corresponding to a load exerted on the pressure sensitive device (see column 5, lines 50-61), establishing a range based on upper and lower signal levels of the detected analog signal (see column 9, lines 61-63), and segmenting the detected analog signal into a plurality of signal levels within the established range, whereby the signal output of the control apparatus is adjusted (see column 9, line 64-column 10, line 2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Copper et al..

With reference to **claim 1**, Copper et al. teaches a control (3) apparatus comprising a controller (12) which can be pressed and operated (see abstract); a detecting device (transducer, 15) for outputting an analog signal corresponding to the pressing operation of the controller (12), an A/D converting unit for converting the detected analog signal into a digital signal (see column 9, lines 43-51).

Copper fails to specifically teach a level segmenting unit for segmenting the analog signal output by the detecting device into one of a plurality of levels, or a

segmenting-range setting unit coupled to the level segmenting unit for calibrating a range associated with the plurality of levels into which the analog signal is segmented by the level segmenting unit. However, Copper et al. does teach upon detection of applied pressure voltage levels, which range from 0 to maximum determined by circuit parameters, reflect the direction and magnitude of force applied to the disc. By disclosing that the applied pressure has a predetermined range between 0 and maximum, this function thereby acts as a segmenting-range setting unit. Further it is disclosed the voltages are further divided into several bands, which correspond to ranges of applied forces. By disclosing that the voltage levels, which range from 0 to maximum is further divided into several band, this function thereby acts as a level segmenting unit (see column 9, line 52-column 10, line 14).

Therefore it would be obvious to one having ordinary skill in the art at the time of the invention for a device similar to that which is taught by Copper et al. to include a level segmenting unit, and a segmenting range setting unit coupled thereto in order to provide a set range of voltage levels which relate to applied pressure to a detecting device in order to provide the corresponding signals to a processor for controlling a computer system or electronic device. This provides intermediate voltage levels between the set maximum and minimum voltage to control the system or device, thereby improving the interaction between the user and the system.

With reference to **claims 7-9**, Copper et al. teaches that switch caps (19) are made of plastic or other material and so arranged that deformation of the cap or a

portion thereof must occur in order to operate one of the switches (see column 6, lines 36-50).

Claims 2, 3, 5, 6, 10-15, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Copper et al. as applied to **claims 1 and 18** above, and further in view of Armstrong (U.S. Patent No. 6,208,271).

With reference to **claims 2 and 10**, Copper et al. teaches all that is required as explained above with reference to **claim 1**, however fails to specifically teach that the switch provides a digital signal with a plurality of bits or a single bit.

Armstrong teaches that the switches (buttons, 03) is operable in either of two states (ON or Off), or three states (off, first On state, and second On state) (see column 10, lines 57), wherein the dome cap sensor can be associated with an individual bit or digital assignment (see column 15, lines 39-65). Armstrong also teaches that the switch is connected to circuitry (70), which includes additional circuitry (72) being an A/D converter (see Fig. 20).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to allow the single or plural bit switch being connected to an A/D converter as disclosed by Armstrong to be used in a device similar to that which is taught by Copper et al. in order to thereby provide a pressure-sensitive analog controller for electronic device wherein the user is capable of operating a single bit switch for ON/OFF control or a plural bit switch which allows the user to generate control signals

based on the amount of pressure applied to the switch. Providing the user with such a controller would thereby allow for improved control and functionality of the controller.

With reference to ***claims 3, 14, 19 and 20***, Copper et al. teaches all that is required however, fails to teach storing the detected analog signal in a memory storing unit or that the storing unit is a detachable memory card.

Armstrong teaches buttons (03), which are associated with pressure-sensitive variable-conductance sensors in which the circuitry reads as having at least three readable states, wherein and active element (14) and conductive elements (16, 18) are used to detect varying pressure applied to buttons (03) (see abstract). It is further disclosed that a representative value of a read state of the active element (14) is at least stored in some register at some time within the digital electronics processing the status of the active element (14) (see column 16, lines 26-29). With further reference to claim 20, Armstrong fails to teach the usage of a detachable memory card, however the usage of a detachable memory card is well known in the art, and would be obvious for usage to allow for the stored data to be used in another controller or for additional processing.

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to allow the device of Copper et al. to include a memory device as taught by Armstrong in order to allow the detected pressure signal from the sensors to be stored. This would thereby allow the device to store current states of the pressure sensor, retrieve past states of the pressure sensor, or used to average or calculate the

current state with any other previous value. This would also eliminate the need to recalculate the signal levels for reoccurring states of the pressure sensor.

With reference to **claims 5, and 15**, Copper et al. teaches all that is required as explained above with reference to **claim 1**, however, fails to teach that the segmenting range setting unit is a volume device that is inserted in the power line of the detecting device for determining the range of output levels.

Armstrong teaches the usage of a meter (26) including an electromagnetic coil engaged to a moveable indicating needle adjacent a printed scale or range gauge and capable of showing varying conductivity across the sensor (10). Armstrong also teaches that with sufficient pressure, and varying pressure well within a range readily applied by a human finger, the sensor (10) will be moved from the first state to subsequent states with increasing applied pressure (see column 13, lines 20-68).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to allow the usage of a volume device as taught by Armstrong in a device similar to that which is taught by Copper et al. in order to provide a pressure-sensitive analog sensor which can supply the user with visual feedback on activation or deactivation of the sensor. Providing the user with such visual feedback would allow the user to recognize the amount of pressure being applied in order to for the user to know how much to adjust the applied pressure for controlling a particular function or how much additional pressure needs to be applied for controlling said function, thereby making the device more user-friendly.

With reference to **claim 6**, Copper et al. teaches all that is required as explained above with reference to **claim 1**, and further teaches a comparator for comparing the range of the voltage level with the limit value, and for outputting to the level segmenting unit when the first voltage level is within the limit value, and outputs the limit value to the level segmenting unit when the first voltage level is over the limit value (see column 9, line 60-column 10, line 5).

Copper et al. fails to specifically teach a volume device or a storing unit as described in the claim limitations. However Copper et al. does teach the usage of a ROM and RAM in conjunction with the transmitter functions executed by the micro-controller (22) (see column 6, line 64-column 7, line 20).

Armstrong teaches the usage of a meter (26) including an electromagnetic coil engaged to a moveable indicating needle adjacent a printed scale or range gauge and capable of showing varying conductivity across the sensor (10). Armstrong also teaches that with sufficient pressure, and varying pressure well within a range readily applied by a human finger, the sensor (10) will be moved from the first state to subsequent states with increasing applied pressure (see column 13, lines 20-68). Armstrong also teaches buttons (03), which are associated with pressure-sensitive variable-conductance sensors in which the circuitry reads as having at least three readable states, wherein and active element (14) and conductive elements (16, 18) are used to detect varying pressure applied to buttons (03) (see abstract). It is further disclosed that a representative value of a read state of the active element (14) is at least

stored in some register at some time within the digital electronics processing the status of the active element (14) (see column 16, lines 26-29).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to allow the device of Copper et al. to include a memory device and volume device as taught by Armstrong in order to allow the detected pressure signal from the sensors to be stored and the applied pressure to the switch to be recognized by the user. This would thereby allow the device to store current states of the pressure sensor, retrieve past states of the pressure sensor, or used to average or calculate the current state with any other previous value, and would eliminate the need to recalculate the signal levels for reoccurring states of the pressure sensor in order to provide a pressure-sensitive analog sensor which can supply the user with visual feedback on activation or deactivation of the sensor. Also, by providing the user with such visual feedback would allow the user to recognize the amount of pressure being applied in order to for the user to know how much to adjust the applied pressure for controlling a particular function or how much additional pressure needs to be applied for controlling said function, thereby making the device more user-friendly.

With reference to **claims 11-13**, Copper et al. teaches that switch caps (19) are made of plastic or other material and so arranged that deformation of the cap or a portion thereof must occur in order to operate one of the switches (see column 6, lines 36-50).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Copper et al. in view of Armstrong.

With reference to **claim 4**, Copper et al. teaches a control (3) apparatus comprising a controller (12) which can be pressed and operated (see abstract); a detecting device (transducer, 15) for outputting an analog signal corresponding to the pressing operation of the controller (12), an A/D converting unit for converting the detected analog signal into a digital signal (see column 9, lines 43-51).

Copper fails to specifically teach a level segmenting unit for segmenting the analog signal output by the detecting device into one of a plurality of levels, or a segmenting-range setting unit coupled to the level segmenting unit for calibrating a range associated with the plurality of levels into which the analog signal is segmented by the level segmenting unit. However, Copper et al. does teach upon detection of applied pressure voltage levels, which range from 0 to maximum determined by circuit parameters, reflect the direction and magnitude of force applied to the disc. By disclosing that the applied pressure has a predetermined range between 0 and maximum, this function thereby acts as a segmenting-range setting unit. Further it is disclosed the voltages are further divided into several bands, which correspond to ranges of applied forces. By disclosing that the voltage levels, which range from 0 to maximum is further divided into several band, this function thereby acts as a level segmenting unit (see column 9, line 52-column 10, line 14). Further Copper et al. fails to teach an entertainment device having a storing unit for storing the plurality of levels.

However Copper et al. does teach the usage of a ROM and RAM in conjunction with the transmitter functions executed by the micro-controller (22) (see column 6, line 64-column 7, line 20).

Armstrong teaches buttons (03), which are associated with pressure-sensitive variable-conductance sensors in which the circuitry reads as having at least three readable states, wherein and active element (14) and conductive elements (16, 18) are used to detect varying pressure applied to buttons (03) (see abstract). It is further disclosed that a representative value of a read state of the active element (14) is at least stored in some register at some time within the digital electronics processing the status of the active element (14) (see column 16, lines 26-29). Armstrong also teaches that the host device (02) can include many well known electronics allowing for remote control and which can be remotely controlled with a remote controller (see column 11, lines 6-19).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to allow the device of Copper et al. to include a memory device as taught by Armstrong in order to allow the detected pressure signal from the sensors to be stored. This would thereby allow the device to store current states of the pressure sensor, retrieve past states of the pressure sensor, or used to average or calculate the current state with any other previous value. This would also eliminate the need to recalculate the signal levels for reoccurring states of the pressure sensor.

Response to Arguments

Applicant's arguments filed 8/22/03 have been fully considered but they are not persuasive. The applicant argues that the Copper et al. fails to teach the newly recited limitations of independent claims 1 and 4, and fail to teach the limitations of new claims 18-20. The newly cited limitations as disclosed in claims 1 and 4 recite a segmenting range setting unit for calibrating a range associated with the plurality of levels into which the analog signal is segmented by said level segmenting unit. However, calibrating a range as defined in the specification as setting the limits to which the level segmenting unit segments uses to segment the detected signal into a plurality of voltage levels. This is taught by Copper et al. where it is taught that the voltage levels range from) to maximum as determined by circuit parameters. Further it is disclosed how the set range is divided into levels corresponding to the applied pressure. All of which is explained above with reference to the claims (see column 9, line 60-column 10, line 14).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alecia D. Nelson whose telephone number is (703)305-0143. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras can be reached on (703)305-9720. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9314 for regular communications and (703)308-9051 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

adn/ADN
September 8, 2003

DENNIS-DOON CHOW
PRIMARY EXAMINER